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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/554,170	10/21/2005	Masayuki Kashimura	4007561-173525	1972
23570 7590 11/12/2009 PORTER WRIGHT MORRIS & ARTHUR, LLP INTELLECTUAL PROPERTY GROUP 41 SOUTH HIGH STREET 28TH FLOOR COLUMBUS, OH 43215				
EXAMINER				
KRUEER, KEVIN R				
ART UNIT		PAPER NUMBER		
1794				
MAIL DATE		DELIVERY MODE		
11/12/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/554,170

**Applicant(s)**

KASHIMURA ET AL.

**Examiner**

KEVIN R. KRUEER

**Art Unit**

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/19/2009 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
3. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO99/52973 (herein referred to as Ohba) in view of Bekele (US 5,482,770). NOTE: US 6,605,344 is herein relied upon as an English translation of the WO document.

Ohba teaches a gas barrier film which is produced by applying a metallic compound to the surface of a poly(meth)acrylic polymer layer (abstract). The metallic compound may be utilized alone or compounded with a resin (col 3, lines 50+). The metallic compound may comprise an alkaline earth metal or transition metal having an oxidation number of +2 (col 7, lines 22-25). The thickness of the poly(meth)acrylic layer is 0.1-50um (col 6, lines 59+). The metallic compound is applied in amounts of 0.03-

20g/square meter (col 8, lines 21+). A polymer layer may be applied to the metallic compound layer (col 10, lines 26+) and a heat sealable layer may be applied to said outer polymer layer (col 10, lines 43+). Herein, the polymer layer is herein understood to read on the claimed base film and the heat sealable layer is understood to read on the claimed heat sensitive tackifier of claim 18 and the additional layer of claim 9. The film is used to package materials (col 10, lines 63+-herein understood to read on the claimed label and packaging embodiments of claims 17-20) and meets the claimed barrier properties (see Table 1).

Ohba does not teach the film should be heat shrinkable. However, Bekele teaches is it desirable for barrier packaging films to be heat shrinkable. Said films are made heat shrinkable by orienting said film and then heating the film so that it returns to its pre-oriented state. Shrink is directly proportional to the degree of orientation (col 1, lines 55+). Thus, it would have been obvious to one having ordinary skill in the art to orient the film in order to obtain and make it heat shrinkable because heat shrinkability is desired in the barrier packaging art. Furthermore, it would have been obvious to control the degree of orientation in order to obtain the desired level of heat shrinkage.

With regards to claim 5, Ohba does not teach the claimed relative thicknesses. However, it would have been obvious to the skilled artisan to vary the relative thicknesses of the layers taught in Ohba in order to optimize the film's properties and processability according to the desired end use of the film.

With regards to claim 11, said property is understood to be inherent to the film taught in Ohba.

With regards to the limitation that the coating is free of polyalcohol, Ohba teaches the polyalcohol is present in amounts of 1% or greater (col 5, lines 50+). However, it would have been obvious to eliminate the polyalcohol because the functions attributed thereto are not required in the barrier coating. Furthermore, the courts have held a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. Thus, it would have been obvious to utilize a coating with 0% polyalcohol because the skilled artisan would expect a composition free of polyalcohol to have the same properties as the disclosed composition having 1% polyalcohol.

With regards to the claimed oxygen permeability, Ohba teaches the permeability is preferably less than  $400\text{cm}^3/(\text{m}^2\cdot\text{day}\cdot\text{MPa})$ . It would have been obvious to optimize the degree of neutralization, the film thickness, and the degree of orientation/shrink in order to optimize the oxygen permeability of the film.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422

F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-20 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 15 and 16 of U.S. Patent No. US 7,476,712 (Kureha) in view of in view of Bekele (US 5,482,770).

Kureha teaches a gas barrier film which is produced by applying a metallic compound to the surface of a poly(meth)acrylic polymer layer (col 5, lines 52+). The metallic compound may be utilized alone or compounded with a resin (col 11, lines 63+). The metallic compound may comprise an alkaline earth metal or transition metal having an oxidation number of +2 (col 11, lines 48+). The thickness of the poly(meth)acrylic layer is 0.1-100um (col 18, lines 16+). The metallic compound is applied in amounts of 0.2eq or more on the basis of carboxyl groups (col 8, lines 21+, col 22, lines 1+). A polymer layer may be applied to the metallic compound layer (col 11, lines 1+) and a heat sealable layer may be applied to said outer polymer layer (col 29, lines 9+). Herein, the polymer layer is herein understood to read on the claimed base film and the heat sealable layer is understood to read on the claimed heat sensitive tackifier of claim 18 and the additional layer of claim 9. The film is used to package materials (col 29, lines 9+-herein understood to read on the claimed label and packaging embodiments of claims 17-20) and meets the claimed barrier properties.

Kureha teaches the film may be shrinkable (col 29, line 27+) but does not teach the film should be heat shrinkable. However, Bekele teaches is it desirable for barrier packaging films to be heat shrinkable. Said films are made heat shrinkable by orienting said film and then heating the film so that it returns to its pre-oriented state. Shrink is directly proportional to the degree of orientation (col 1, lines 55+). Thus, it would have been obvious to one having ordinary skill in the art to orient the film in order to obtain and make it heat shrinkable to the desired extent because heat shrinkability is desired in the barrier packaging art. Furthermore, it would have been obvious to control the degree of orientation in order to obtain the desired level of heat shrinkage.

With regards to claim 5, Kureha does not teach the claimed relative thicknesses. However, it would have been obvious to the skilled artisan to vary the relative thicknesses of the layers taught in Kureha in order to optimize the film's properties and processability according to the desired end use of the film.

With regards to claim 11, said property is understood to be inherent to the film taught in Kureha.

With regards to the claimed oxygen permeability, it would have been obvious to optimize the degree of neutralization, the film thickness, and the degree of orientation/shrink in order to optimize the oxygen permeability of the film.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-20 have been fully considered but are not persuasive.

Applicant argues that Ohba explicitly teaches the polyalcohol must be present. Said argument is noted but is not persuasive because the courts have held a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. There is no teaching in the prior art that suggests the film would be inoperable with less than 1% polyalcohol. To the contrary, the skilled artisan would expect the film to have virtually the same properties. Applicant argues that sufficient oxygen barrier properties would be obtainable without polyalcohol. Said argument is not persuasive for the reasons noted above. Specifically, Ohba teaches the coating may have as little as 1% polyalcohol and the skilled artisan would not expect the exclusion of said polyalcohol to drastically alter the film's properties. To the contrary, polycarboxylic acid is known to have excellent barrier properties but is humidity sensitive. The polyalcohol is added to improve the polycarboxylic acid's resistance to humidity by providing crosslinks. However, the adjacent metal layer also provides crosslinking and a polymeric overlay provides sufficient barrier properties to humidity. Therefore, the skilled artisan would not expect the absence of the polyalcohol to affect oxygen barrier properties of the multi-layer film to be affected by the absence of the polyalcohol. Thus, Tanaka teaches the polyalcohol creates ester bonds which improved hot water resistance, but said properties can also be assured by providing a polymeric overlay on the polycarboxylic acid barrier films. The examiner notes all the inventive examples comprise a polymer layer on top of the polycarboxylic acid layer,



which will provide an effective moisture barrier to prevent deterioration of the polycarboxylic acid barrier properties at high humidity.

Applicant further argues the heat treatment in Ohba would prevent the film from shrinking under the claimed conditions. Said argument is noted but is not persuasive because counsel's argument cannot take the place of evidence. Furthermore, the heat treatment of Ohba would not be necessary if the composition did not contain polyalcohol since the heat treatment is used to form ester bonds between the polyalcohol and polycarboxylic acid.

Applicant argues Bekele fails to correct the deficiencies of Ohba because Bekele is not directed to a layer of polycarboxylic acid free of polyalcohol. Said argument is noted but is not persuasive because Bekele was never relied upon for such a teaching. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The examiner maintains the skilled artisan would have had reason to combine said references for reasons of record.

With respect to the rejections based on Tanaka, applicant argues said rejection is not proper prior art to the present invention in view of the perfection of applicant's foreign priority. The examiner respectfully disagrees; Tanaka was filed 4/23/2005 which predates applicant's perfected priority date of April 25, 2003. Applicant argues

the filing date is not the relevant date of Tanaka because it was published in Japanese.  
Said argument is persuasive.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEVIN R. KRUER whose telephone number is (571)272-1510. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin R Krue/

Primary Examiner, Art Unit 1794